



# SPEC® CINT2006 Result

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ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)

**SPECint\_rate2006 = 68.5**

ASUSTek M4A89GTD PRO/USB3 (Athlon II X4 630)

**SPECint\_rate\_base2006 = 62.0**

CPU2006 license: 13

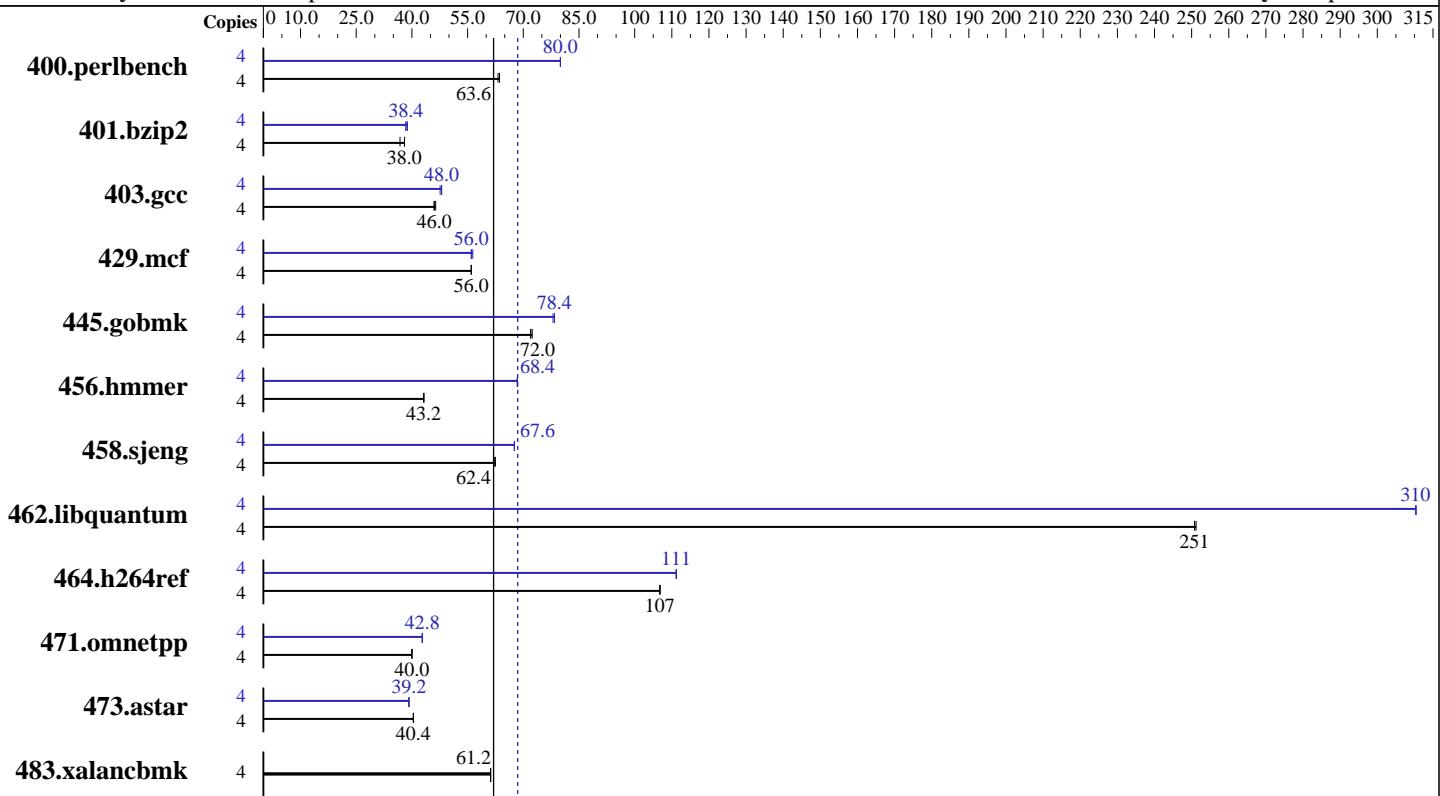
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jun-2011

Hardware Availability: Feb-2011

Software Availability: Apr-2011



**SPECint\_rate\_base2006 = 62.0**

**SPECint\_rate2006 = 68.5**

## Hardware

CPU Name: AMD Athlon II X4 630  
CPU Characteristics:  
CPU MHz: 2800  
FPU: Integrated  
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
CPU(s) orderable: 1 chip  
Primary Cache: 64 KB I + 64 KB D on chip per core  
Secondary Cache: 512 KB I+D on chip per core  
L3 Cache: None  
Other Cache: None  
Memory: 4 GB (2 x 2 GB 2Rx4 PC3-10600U-9)  
Disk Subsystem: 1 TB Seagate SATA, 7200 RPM  
Other Hardware: None

## Software

Operating System: Windows 7 Ultimate (64-bit)  
Compiler: Intel C++ Compiler XE for IA32 and Intel 64 Version 12.0.3.176 Build 20110309  
Microsoft Visual Studio 2008 Professional SP1 (for libraries)  
Auto Parallel: No  
File System: NTFS  
System State: Default  
Base Pointers: 32-bit  
Peak Pointers: 32/64-bit  
Other Software: SmartHeap Library Version 9.01 from <http://www.microquill.com/>



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	617	63.2	<b>616</b>	<b>63.6</b>	616	63.6	4	<b>489</b>	<b>80.0</b>	489	80.0	488	80.0
401.bzip2	4	1048	36.8	<b>1019</b>	<b>38.0</b>	1012	38.0	4	<b>1008</b>	<b>38.4</b>	<b>1007</b>	<b>38.4</b>	992	38.8
403.gcc	4	694	46.4	700	46.0	<b>699</b>	<b>46.0</b>	4	<b>677</b>	<b>47.6</b>	671	48.0	<b>674</b>	<b>48.0</b>
429.mcf	4	650	56.0	<b>650</b>	<b>56.0</b>	651	56.0	4	<b>652</b>	<b>56.0</b>	646	56.4	652	56.0
445.gobmk	4	<b>581</b>	<b>72.0</b>	581	72.4	581	72.0	4	<b>537</b>	<b>78.0</b>	536	78.4	<b>537</b>	<b>78.4</b>
456.hammer	4	865	43.2	866	43.2	<b>866</b>	<b>43.2</b>	4	<b>545</b>	<b>68.4</b>	545	68.4	544	68.4
458.sjeng	4	<b>778</b>	<b>62.4</b>	777	62.4	778	62.4	4	<b>717</b>	<b>67.6</b>	717	67.6	717	67.6
462.libquantum	4	331	251	<b>330</b>	<b>251</b>	330	251	4	<b>267</b>	<b>310</b>	267	310	267	310
464.h264ref	4	<b>829</b>	<b>107</b>	829	107	829	107	4	<b>795</b>	<b>111</b>	<b>795</b>	<b>111</b>	795	111
471.omnetpp	4	<b>626</b>	<b>40.0</b>	625	40.0	626	40.0	4	<b>586</b>	<b>42.8</b>	<b>586</b>	<b>42.8</b>	586	42.8
473.astar	4	696	40.4	<b>697</b>	<b>40.4</b>	697	40.4	4	<b>718</b>	<b>39.2</b>	718	39.2	717	39.2
483.xalancbmk	4	<b>452</b>	<b>61.2</b>	452	61.2	452	61.2	4	<b>452</b>	<b>61.2</b>	452	61.2	452	61.2

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The config file option 'submit' was used.

The start command with the /affinity switch was used to bind processes to cores

## General Notes

Tested systems can be used with Shin-G ATX case,  
PC Power and Cooling 1200W power supply

## Base Compiler Invocation

C benchmarks:

  icl -Qvc9 -Qstd=c99

C++ benchmarks:

  icl -Qvc9

## Base Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32

464.h264ref: -DWIN32 -DSPEC\_CPU\_NO\_INTTYPES

483.xalancbmk: -Qoption,cpp,--no\_wchar\_t\_keyword



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## Base Optimization Flags

C benchmarks:

```
/arch:SSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000
```

C++ benchmarks:

```
/arch:SSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features  
/F5120000000 shlw32M.lib -link /FORCE:MULTIPLE
```

## Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icl -Qvc9 -Qstd=c99
```

```
456.hmmr: C:/Program Files (x86)/Intel/ComposerXE-2011/bin/intel64/icl.exe
```

```
458.sjeng: C:/Program Files (x86)/Intel/ComposerXE-2011/bin/intel64/icl.exe
```

```
462.libquantum: C:/Program Files (x86)/Intel/ComposerXE-2011/bin/intel64/icl.exe  
-Qstd=c99
```

C++ benchmarks (except as noted below):

```
icl -Qvc9
```

```
473.astar: C:/Program Files (x86)/Intel/ComposerXE-2011/bin/intel64/icl.exe
```

## Peak Portability Flags

```
403.gcc: -DSPEC_CPU_WIN32
```

```
456.hmmr: -DSPEC_CPU_P64
```

```
458.sjeng: -DSPEC_CPU_P64
```

```
462.libquantum: -DSPEC_CPU_P64
```

```
464.h264ref: -DWIN32 -DSPEC_CPU_NO_INTTYPES
```

```
473.astar: -DSPEC_CPU_P64
```

```
483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword
```



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## Peak Optimization Flags

C benchmarks:

```
400.perlbench: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
               -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
               /F512000000 shlw32M.lib           -link /FORCE:MULTIPLE

401.bzip2: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
            -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias
            /F512000000

403.gcc: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
          -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

429.mcf: /arch:SSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch
          /F512000000

445.gobmk: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
            -Qipo -O2 -Qprec-div- -Qansi-alias /F512000000

456.hmmer: -Qauto-ilp32 /arch:SSE3(pass 2) -Qprof_gen(pass 1)
            -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch
            /F512000000

458.sjeng: -Qauto-ilp32 /arch:SSE3(pass 2) -Qprof_gen(pass 1)
            -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll14
            /F512000000

462.libquantum: -Qauto-ilp32 /arch:SSE3 -Qipo -O3 -Qprec-div-
                -Qopt-prefetch /F512000000

464.h264ref: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
              -Qipo -O3 -Qprec-div- -Qunroll12 -Qansi-alias /F512000000
```

C++ benchmarks:

```
471.omnetpp: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
              -Qipo -O3 -Qprec-div- -Qansi-alias
              -Qopt-ra-region-strategy=block /F512000000 shlw32M.lib
              -link /FORCE:MULTIPLE

473.astar: -Qauto-ilp32 /arch:SSE3 -Qipo -O3 -Qprec-div-
            -Qopt-prefetch /F512000000 shlw64M.lib
            -link /FORCE:MULTIPLE

483.xalancbmk: basepeak = yes
```



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## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

456.hmmr: -link -LIBPATH:C:/Program Files (x86)/Intel/ComposerXE-2011/compiler/lib/intel64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib  
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

458.sjeng: -link -LIBPATH:C:/Program Files (x86)/Intel/ComposerXE-2011/compiler/lib/intel64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib  
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

462.libquantum: -link -LIBPATH:C:/Program Files (x86)/Intel/ComposerXE-2011/compiler/lib/intel64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib  
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

C++ benchmarks:

473.astar: -link -LIBPATH:C:/Program Files (x86)/Intel/ComposerXE-2011/compiler/lib/intel64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib  
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12-win32-revC.html>

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12-win32-revC.xml>

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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